



STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION



September 6, 1984

RCRA RECORDS CENTER

FACILITY Pratt & Whitney Main St

I.D. NO. CTD990672081

FILE LOC. R-1B

OTHER RDMS #2717

Mr. James D. Wickwire
Plant Engineer
Pratt & Whitney Aircraft Group
Division of United Technologies
400 Main Street
East Hartford, Connecticut 06108

1984 SEP 17 DES

RE: Part B Application
Pratt & Whitney Aircraft Group
400 Main Street
East Hartford, Connecticut 06106
EPA I.D. No. CTD990672081

Dear Mr. Wickwire:

The Connecticut DEP has conducted an initial review of Pratt & Whitney Aircraft Group, 400 Main Street, East Hartford, Connecticut application under the Resource Conservation and Recovery Act (RCRA) for a permit to store, treat and dispose of hazardous waste. A review of the application has been made to determine if the information submitted is complete under Section 25-54cc(c)-16 of the Connecticut Hazardous Waste Management Regulations and 40CFR Section 270. It has been determined that the application is incomplete and we have specified in our attachment to this letter the additional information needed.

Further processing of your permit will begin when this information is received. Please submit the necessary information within 45 days of receipt of this request. After DEP determines that the application is complete, any additional information requested will be limited to that necessary to clarify, modify or supplement previously submitted material.

Your response to our comments may be in the form of a totally revised complete Part B application or revised pages which can be inserted into the original Part B submission.

If you choose to submit revised pages, please provide the following information:

1. Page numbers should be shown for the entire application;
2. For each page submitted, indicate if it is a revision to a page in the original submittal or a new page not contained in the original submittal; and
3. Date or code each page, for example: 32(R-5/7/84) means page 32 revised May 7, 1984.

Phone:

165 Capitol Avenue • Hartford, Connecticut 06106


An Equal Opportunity Employer

Page two
Mr. James D. Wickwire
Pratt & Whitney Aircraft Group
Part B Permit Application
September 6, 1984

All revisions to your Part B application must include a new certification with the appropriate signatures as required by 40CFR Section 270.11. Additionally, if you wish to claim confidentiality on any new information, please submit a claim in accordance with 40CFR Section 270.12.

If there are any questions, please call (203) 566-5712.

Sincerely,


George News
Senior Sanitary Engineer
Hazardous Waste Management Section

GD:et

cc: W. Torrey - EPA
A. Hoffman - EPA ✓
B. Giroux - DEP

Certified Mail

Return Receipt Requested

Attachments

SEP 17 1984

ATTACHMENT: Pratt and Whitney Aircraft Group
400 Main Street
East Hartford, Connecticut
EPA I.D. Number CTD990672081
Permit Application Notice of Deficiency

The following information outlines areas where the Pratt and Whitney Permit Application does not meet the requirements for a RCRA Part B permit application given in 40 CFR §270 and §264 and in sections 25-54cc(c)-16(d) and 25-54cc(c)-19 of the Connecticut Hazardous Waste Management Regulations. Additional information is necessary in each of the following areas in order to begin a more technical review of Pratt and Whitney's permit application:

I. GENERAL INFORMATION REQUIREMENTS

A. Section B - Waste Descriptions and Analysis - (40 CFR §§270.14(a)(2) and 264.13(a)).

1. Provide a more detailed description and analysis of the wastes handled at Pratt and Whitney. Information such as percentages of components, physical form (solid, liquid, sludge), form of storage and yearly volumes of each chemical waste should be included.
2. Table B-2 lists methods for sampling seven different forms of waste management (i.e., waste pits, ponds and lagoons). Specify which methods will be used at Pratt and Whitney and under what circumstances each will be used.

B. Section C - Waste Analysis Plan - (40 CFR §§270.14(b)(3) and 264.13(b))

1. The waste analysis plan states that the wastes at Pratt and Whitney are expected to remain constant in composition. Specify the actual composition for each waste which is expected.
2. Elaborate on each of the methods that will be used to test for the parameters listed in Table C-1. Provide a brief description and reference for each method.

C. Section E - General Inspection Schedule - (40 CFR §§270.14(b)(5) and 264.15)

1. Include a checkpoint for the inspection of the pallets in the barrel storage area on Inspection Guide M-566.

2. Elaborate on the cleaning of sumps as listed on Inspection Guides M-566, M-567, and M-572. How will they be cleaned? Will the liquids be analyzed to determine if they are hazardous? If hazardous, how will they be handled?

D. Section F - General Contingency Plan - (40 CFR §§270.14(b)(7) and 264 Supart D)

1. When will the PA system be installed?
2. Describe how the equipment will be shutdown in the event of a sudden and non-controllable occurrence.
3. Provide a map of the evacuation plan showing work sites, evacuation routes, alternate evacuation routes and check-in points.
4. Specify exactly what incompatibles Pratt and Whitney deals with, where they are located and what special handling procedures are followed to accomodate them.
5. Provide a description of the emergency equipment's capabilities and a map showing the location of this equipment within the facility.
6. Describe the procedure for updating all copies of the contingency plan when needed, and identify the person responsible for these changes.

E. Section G - General Hazardous Waste Facilities Procedures - (40 CFR §§270.14(b)(8) and 264 Subpart C)

1. Instead of stating that signs are posted "where appropriate" indicate the location and the wording of these signs.
2. Identify the roads used to get from routes #2 and I-84 to the facility. Indicate which roads the listed load bearing capacity and road composition apply to.

F. Section J - Closure Plan and Cost Estimate - (40 CFR §§270.14(b)(3) and 264 Subpart G)

1. Develop a trackable timetable with intermediate steps for the closure of each facility process.

2. Storage and Treatment Tanks

- a. Describe the conditions which are required for the activation of partial closure of this area.
- b. Be more specific than the "normal" manner of draining the tank and the "appropriate" manner of disposing of the rinse water.

3. Incinerator

- a. Residues and ash inside the incinerator must be removed and tested to determine if they are hazardous.
 - b. Outline steps for the dismantling of the auxiliary fuel feed, cooling water feed and electrical system and the actual disassembly (partial or total) of the unit.
4. Describe the procedure for updating all copies of the closure plan when needed (i.e., following the partial closure of the storage and treatment tanks) and identify the person responsible for these changes.

5. Cost Estimate - (40 CFR §§270.14(b)(15) and 264.142)

Itemize and provide a description of each of the costs (i.e., manpower, decontamination, equipment, transportation, etc.) for the closure of the three process areas. ~~Cost estimate~~ for 1981 is incorrect, correct and upgrade following cost estimates.

6. Section L - Financial Assurance and Liability Insurance - (40 CFR §§270.14 (b)(17) and 264, Subpart H)

References to federal agencies in the insurance certificate must be changed to the state equivalents.

II. SPECIFIC INFORMATION REQUIREMENTS

A. Section M - Storage of Containers - (40 CFR §§270.15 and 264 Subpart I)

1. Adequate aisle space must be maintained to allow the unobstructed movement of personnel and emergency equipment in the barrel storage building and the barrel/transporter storage pad. Verify that aisle space is adequate.
2. The approximation that the paint waste is 60% liquid and 40% solid must be documented.

3. The sample computer report (exhibit DD) does not show the total of the drums stored nor does it make a special notation for the total of free-liquid drums. How does this help to avoid exceeding the 350 drum maximum free-liquids and the 1000 drum maximum total?

B. Section O - Liquid Injection Incinerator - (40 CFR §§270.19 and 264 Subpart O)

1. Cyanides are listed in 40 CFR §261 Appendix VIII and are to be considered as principal organic hazardous constituents (POHCs) for the cyanide waste stream. The test protocol should be written to address this.
2. Submit more than one feed rate in the trial burn plan to represent the range of possible waste flow rates.
3. Provide a description of the operating conditions for the packed tower scrubber including:
 - a. The temperature of the inlet and outlet streams for both the liquid and gas.
 - b. The scrubber water flow rate.
 - c. The monitoring procedures which will be incorporated to insure a constant scrubber water pH and flow rate.
 - d. What intervals or under what conditions the scrubber water will be removed from the closed loop system.
 - e. The analysis methods for the waste scrubber water to determine if it is a hazardous waste.
4. Indicate whether the incinerator ash is a hazardous waste.
5. Provide an incinerator/emissions-control operations and maintenance manual detailing the procedures which the operator must follow. This manual should cover the following topics:
 - a. Start up (cold).
 - b. Shut down.
 - c. Emergency shut down.
 - d. Automatic shut down.
 - e. Re-starting (warm).
 - f. Normal operations.
6. Provide an engineering description of the emissions-control system (packed tower scrubber).

Note: Data from the trial burn must be signed and certified by a principal executive officer of at least the level of vice president.

The present lack of cyanide incineration test data makes the method uncertain as an acceptable procedure for the disposal of cyanide wastes. Certain technical aspects of the burning may pose significant risk of injury to human health and the environment. Our concerns are as follows:

1. The cyanides such as those found at Pratt and Whitney generally have boiling points in the range of 2700°F which exceed the incineration temperature range of 1832°F to 2000°F (Sodium Cyanide [NaCN] has a boiling point of 2725°F). Vaporization is an important characteristic when considering the incineration of any material.
2. Even if the cyanide becomes airborne in the incineration zone due to atomization through the injection nozzles, destruction or thermal oxidation may be very difficult to achieve. The thermal oxidation temperature of a chemical substance is usually much higher than its vaporization temperature.
3. It is possible that most of the cyanide fed into the incinerator would be trapped in the incinerator scrubber liquid without undergoing oxidation. Under acidic conditions (i.e., pH of < 7), the cyanides can be readily converted into hydrogen cyanide gas. Although Pratt and Whitney plans to maintain a scrubber pH range of 7.0 to 8.5, any malfunction in the pH monitoring system has the potential to create this catastrophic transformation.

One of the primary concerns Pratt and Whitney must address in the trial burn is the fate of the cyanide waste. Monitoring should be conducted over the range of operating conditions to develop a cyanide mass balance for the incinerator and emissions-control units. The test results should include:

- a. The destruction efficiency for the cyanides;
- b. The amount of cyanide trapped in the scrubber solution; and
- c. The amount of cyanide in the stack emissions.

If the scrubber solution is determined to contain cyanide, detailed waste handling and disposal procedures must be submitted as part of this application.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION I

J. F. KENNEDY FEDERAL BUILDING, BOSTON, MASSACHUSETTS 02203

August 10, 1984

George Dews, Sanitary Engineer
Hazardous Waste Management Section
Department of Environmental Protection
165 Capitol Avenue/State Office Bldg.
Hartford, Connecticut 06106

Re: Notice of Deficiency for the Pratt & Whitney Aircraft Group,
East Hartford, Connecticut - EPA I.D. No. CTD990672081

Dear ^{George} ~~Mr. Dews~~:

Enclosed for your review are my comments on Pratt & Whitney's
Part B application and 11/30/83 corrections. Please send me a
copy of your cover letter when issued to the Company.

Call me at (617)223-5902 if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Andrew Hoffman".

Andrew Hoffman, Chemical Engineer
CT/RI Waste Programs Section

cc: Ed Parker
Dick Boynton

Due Nov. 1

ATTACHMENT: Pratt and Whitney Aircraft Group
400 Main Street
East Hartford, Connecticut
EPA I.D. Number CTD990672081
Permit Application Notice of Deficiency

The following information outlines areas where the Pratt and Whitney Permit Application does not meet the requirements for a RCRA Part B permit application given in 40 CFR §270 and §264 and in sections 25-54cc(c)-16(d) and 25-54cc(c)-19 of the Connecticut Hazardous Waste Management Regulations. Additional information is necessary in each of the following areas in order to begin a more technical review of Pratt and Whitney's permit application:

I. GENERAL INFORMATION REQUIREMENTS

A. Section B - Waste Descriptions and Analysis - (40 CFR §§270.14(a)(2) and 264.13(a)).

1. Provide a more detailed description and analysis of the wastes handled at Pratt and Whitney. Information such as percentages of components, physical form (solid, liquid, sludge), form of storage and yearly volumes of each chemical waste should be included.
2. Table B-2 lists methods for sampling seven different forms of waste management (i.e., waste pits, ponds and lagoons). Specify which methods will be used at Pratt and Whitney and under what circumstances each will be used.

B. Section C - Waste Analysis Plan - (40 CFR §§270.14(b)(3) and 264.13(b))

1. The waste analysis plan states that the wastes at Pratt and Whitney are expected to remain constant in composition. Specify the actual composition for each waste which is expected.
2. Elaborate on each of the methods that will be used to test for the parameters listed in Table C-1. Provide a brief description and reference for each method.

C. Section E - General Inspection Schedule - (40 CFR §§270.14(b)(5) and 264.15)

1. Include a checkpoint for the inspection of the pallets in the barrel storage area on Inspection Guide M-566.

2. Elaborate on the cleaning of sumps as listed on Inspection Guides M-566, M-567, and M-572. How will they be cleaned? Will the liquids be analyzed to determine if they are hazardous? If hazardous, how will they be handled?

will refer
to operating
Section D.

Section F - General Contingency Plan - (40 CFR §§270.14(b)(7) and 264 Subpart D)

1. When will the PA system be installed?
2. Describe how the equipment will be shutdown in the event of a sudden and non-controllable occurrence.
3. Provide a map of the evacuation plan showing work sites, evacuation routes, alternate evacuation routes and check-in points.
4. Specify exactly what incompatibles Pratt and Whitney deals with, where they are located and what special handling procedures are followed to accomodate them.
5. Provide a description of the emergency equipment's capabilities and a map showing the location of this equipment within the facility.
6. Describe the procedure for updating all copies of the contingency plan when needed, and identify the person responsible for these changes.

Wait a. &
See
①
50

E. Section G - General Hazardous Waste Facilities Procedures - (40 CFR §§270.14(b)(8) and 264 Subpart C)

1. Instead of stating that signs are posted "where appropriate" indicate the location and the wording of these signs.
2. Identify the roads used to get from routes #2 and I-84 to the facility. Indicate which roads the listed load bearing capacity and road composition apply to.

F. Section J - Closure Plan and Cost Estimate - (40 CFR §§270.14(b)(3) and 264 Subpart G)

1. Develop a trackable timetable with intermediate steps for the closure of each facility process.

2. Storage and Treatment Tanks

- a. Describe the conditions which are required for the activation of partial closure of this area. *Can I do it will not partial close*
- b. Be more specific than the "normal" manner of draining the tank and the "appropriate" manner of disposing of the rinse water. *described in facility description*

3. Incinerator

- a. Residues and ash inside the incinerator must be removed and tested to determine if they are hazardous. *automatically hazardous?*
- b. Outline steps for the dismantling of the auxiliary fuel feed, cooling water feed and electrical system and the actual disassembly (partial or total) of the unit.

4. Describe the procedure for updating all copies of the closure plan when needed (i.e., following the partial closure of the storage and treatment tanks) and identify the person responsible for these changes.

5. Cost Estimate - (40 CFR §§270.14(b)(15) and 264.142)

Itemize and provide a description of each of the costs (i.e., manpower, decontamination, equipment, transportation, etc.) for the closure of the three process areas. *not estimate O.K. extra*

F. Section L - Financial Assurance and Liability Insurance
- (40 CFR §§270.14 (b)(17) and 264, Subpart H)

References to federal agencies in the insurance certificate must be changed to the state equivalents.

II. SPECIFIC INFORMATION REQUIREMENTS

A. Section M - Storage of Containers - (40 CFR §§270.15 and 264 Subpart I)

1. Adequate aisle space must be maintained to allow the unobstructed movement of personnel and emergency equipment in the barrel storage building and the barrel/transporter storage pad. *Wait and see 2*
2. The approximation that the paint waste is 60% liquid and 40% solid must be documented.

3. The sample computer report (exhibit DD) does not show the total of the drums stored nor does it make a special notation for the total of free-liquid drums. How does this help to avoid exceeding the 350 drum maximum free-liquids and the 1000 drum maximum total?

B. Section O - Liquid Injection Incinerator - (40 CFR §§270.19 and 264 Subpart O)

1. Cyanides are listed in 40 CFR §261 Appendix VIII and are to be considered as principal organic hazardous constituents (POHCs) for the cyanide waste stream. The test protocol should be written to address this.
2. Submit more than one feed rate in the trial burn plan to represent the range of possible waste flow rates.
3. Provide a description of the operating conditions for the packed tower scrubber including:
 - a. The temperature of the inlet and outlet streams for both the liquid and gas.
 - b. The scrubber water flow rate.
 - c. The monitoring procedures which will be incorporated to insure a constant scrubber water pH and flow rate.
 - d. What intervals or under what conditions the scrubber water will be removed from the closed loop system.
 - e. The analysis methods for the waste scrubber water to determine if it is a hazardous waste.
4. Indicate whether the incinerator ash is a hazardous waste.
5. Provide an incinerator/emissions-control operations and maintenance manual detailing the procedures which the operator must follow. This manual should cover the following topics:
 - a. Start up (cold).
 - b. Shut down.
 - c. Emergency shut down.
 - d. Automatic shut down.
 - e. Re-starting (warm).
 - f. Normal operations.
6. Provide an engineering description of the emissions-control system (packed tower scrubber).

*this week -
report*

*Recon
System
Inc.*

*True
Budget*

Note: Data from the trial burn must be signed and certified by a principal executive officer of at least the level of vice president.

The present lack of cyanide incineration test data makes the method uncertain as an acceptable procedure for the disposal of cyanide wastes. Certain technical aspects of the burning may pose significant risk of injury to human health and the environment. Our concerns are as follows:

1. The cyanides such as those found at Pratt and Whitney generally have boiling points in the range of 2700°F which exceed the incineration temperature range of 1832°F to 2000°F (Sodium Cyanide [NaCN] has a boiling point of 2725°F). Vaporization is an important characteristic when considering the incineration of any material.
2. Even if the cyanide becomes airborne in the incineration zone due to atomization through the injection nozzles, destruction or thermal oxidation may be very difficult to achieve. The thermal oxidation temperature of a chemical substance is usually much higher than its vaporization temperature.
3. It is possible that most of the cyanide fed into the incinerator would be trapped in the incinerator scrubber liquid without undergoing oxidation. Under acidic conditions (i.e., pH of < 7), the cyanides can be readily converted into hydrogen cyanide gas. Although Pratt and Whitney plans to maintain a scrubber pH range of 7.0 to 8.5, any malfunction in the pH monitoring system has the potential to create this catastrophic transformation.

One of the primary concerns Pratt and Whitney must address in the trial burn is the fate of the cyanide waste. Monitoring should be conducted over the range of operating conditions to develop a cyanide mass balance for the incinerator and emissions-control units. The test results should include:

- a. The destruction efficiency for the cyanides;
- b. The amount of cyanide trapped in the scrubber solution; and
- c. The amount of cyanide in the stack emissions.

If the scrubber solution is determined to contain cyanide, detailed waste handling and disposal procedures must be submitted as part of this application.